REMARKS

This Amendment is responsive to the final Office Action dated September 7, 2004, and is being submitted with a request for continued examination (RCE). In this Amendment, Applicant has amended claims 1, 15, 19, 22, 25, 37, 41 and 45. Claims 1, 2, 4-9, 11-17, 19, 21-26, 28-33, 35-37, and 39-48 are pending.

Claim Rejection Under 35 U.S.C. § 112, second paragraph

The Examiner rejected claims 19, 21-23 and 37 under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. In particular, the Examiner noted that claims 19, 21-23 and 37 were dependent on canceled claims.

Applicant has amended claims 19, 21-23 and 37 to properly depend on pending claims. Accordingly, Applicant submits that the amended claims satisfy the requirements of 35 U.S.C. 112, second paragraph.

Claim Rejection for Obviousness-type Double Patenting:

The Examiner rejected claims 1, 6-8, 10-16, 19, 21, 24, 25, 30-32, 34, 36, 37, 39 and 40 under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1, 5-7, 9, 11, 12, 13, 16, 17, 18, 22, 27, 29, 31, 32, 33, 35, 37, 38, 41 and 42 of copending and commonly assigned Application No. 09/778,704. Applicant respectfully traverses this rejection.

In the previous response filed February 27, 2004, Applicant respectfully requested clarification of the grounds of rejection. In the Office Action, the Examiner has provided a comparison between claims 1, 15, and 25 of the present application, and claims 1, 16, and 27 of the '704 application.

In the comparison, the Examiner noted that claim 1 recites a dithered gray background representing a fixed gray level of approximately 25 to 40%, and acknowledged that this feature is lacking from claim 1 of the '704 application. However, the Examiner stated that "[b]y adjusting the red-blue shift gray level," per claim 1 of the '704 application, "one may obtain gray level of

25-40%," per claim 1 of the present application. The Examiner appears to be confused about the limitations expressed in claim 1 of both applications.

The 25 to 40% level recited in claim 1 of the present application refers to a fixed gray level of a dithered gray background. In contrast, the red-blue shifted gray elements in claim 1 of the '704 application refer to gray elements displayed against a gray background. Accordingly, the limitations cited by the Examiner are directed to different aspects of the claimed inventions, i.e., a dithered gray background per claim 1 of the present application and gray elements displayed against a gray background per claim 1 of the '704 application.

The Examiner relied on a similar interpretation with respect to claims 15 and 25 of the present application versus claims 16 and 27 of the '704 application. Upon appreciation of the fact that the red-blue shifted gray elements are completely different from the gray background on which they are displayed, it should be apparent that the obviousness-type double patenting rejection should be withdrawn.

The Examiner also provided remarks in response to Applicant's arguments. In particular, the Examiner referred to various paragraphs in the '704 application as "teaching" features claimed in the present application. Applicant is confused by the Examiner's discussion of the disclosure in the '704 application. The doctrine of obviousness-type double patenting is not directed to the issue of claims having features that are disclosed in another application. Instead, double patenting concerns conflicting subject matter in the claims.

To raise an obviousness-type double patenting rejection, the claims of the two applications must represent no more than an obvious variation over another. In particular, the question is whether any claim in the application defines an invention that is merely an obvious variation of an invention claimed in the other application. Accordingly, the disclosure of the other application is immaterial. Rather, the issue for obviousness-type double patenting is the actual limitations recited in the claims.

Examiner's Response to Arguments re previous 103 Rejection

The Examiner presented remarks in response to the arguments submitted by Applicant in the response filed February 27, 2004. Applicant addresses some of the remarks below.

1. ***Dithering.*** In the Office Action, at page 3, third paragraph, and page 5, first paragraph, the Examiner seems to be relying on an interpretation of "dithering" that is inconsistent with both Applicant's disclosure and the knowledge of one of ordinary skill in the art of imaging. As previously stated by Applicant, dithering refers to the simulation of pixel intensity within a region by mixing a proportion of "on" and "off," i.e., light and dark, pixels. Hence, dithering is a halftone technique for simulating a continuous tone intensity.

The Examiner appears to contend that dithering relies on adjustment of pixel intensity. In support of his position, the Examiner cited the Microsoft Computer Dictionary, Fifth Edition. Unfortunately, Applicant did not receive a copy of the pertinent pages from this reference with the Office Action. Nevertheless, Applicant directs the Examiner's attention, however, to the Web Style Guide, 2nd Edition, provided at http://www.webstyleguide.com/graphics/dither.html, which very clearly describes the use of dithering, and provides an example of combining white and black, e.g., on and off, pixels to simulate continuous gray values. An excerpt from the Web Style Guide is set forth below:

Web Style Guide
2ND EDITION

Dithering

Full-color photographs may contain an almost infinite range of color values. Dithering is the most common means of reducing the color range of images down to the 256 (or fewer) colors seen in 8-bit GIF images.

Dithering is the process of juxtaposing pixels of two colors to create the illusion that a third color is present. A simple example is an image with only black and white in the color palette. By combining black and white pixels in complex patterns a graphics program like Adobe Photoshop can create the illusion of gray values:

As is well known to persons of ordinary skill in the art, the combination of black and white pixels formed by dithering is visually integrated by the human eye to provide the appearance of a continuous-tone gray level.

Contrary to the Examiner's assertion, the background in Brettel is not dithered, given the interpretation known to those of ordinary skill in the imaging arts. Instead, an examination of the Brettel applet shows that the intensity of the pixels forming the background is varied to produce a continuous tone intensity level, rather than a dither that simulates a continuous tone intensity level. While the central square produced by the Brettel applet appears to be dithered within the proper meaning of the term, the background in Brettel is not dithered. Aside from this interpretation issue, the Examiner did not explain how Brettel would have suggested a background with a fixed gray level.

2. ***Gray Elements.*** At page 3, last paragraph, the Examiner agreed with Applicant's remarks concerning the proper interpretation of "gray elements." However, the Examiner questioned "how many 'gray elements' could a user select? Does Applicant have an anticipated number?" Applicant's claims very clearly specify the user selection of one of the simultaneously displayed gray elements that appears to most closely blend with the single dithered gray background. Beyond that, the point of the Examiner's question is confusing to Applicant. In short, the plain language of the claims appears to address the Examiner's questions insofar as the claims specifically require the user selection of one of the simultaneously displayed gray elements.

3. ***25 to 40%.*** At page 4, second paragraph, with respect to the requirement of a single dithered gray background displayed simultaneously with gray elements and having a fixed gray level of 25 to 40%, the Examiner pointed to the Brettel applet. In particular, the Examiner noted that the applet permits adjustment of a background from 0 to 100%, and that this range encompasses the 25 to 40% range required by the claims. On this basis, the Examiner concluded that a prima facie case of obviousness exists where claimed ranges "overlap or lie inside ranges disclosed by the prior art." The Examiner's position is untenable for the following reasons.

First, Brettel directly teaches away from the use of a single dithered gray background representing a fixed gray level of approximately 25 to 40%. As clearly admitted by the Examiner, the gray level of the background provided by Brettel is not fixed. It is adjustable, i.e., the opposite of fixed.

As previously explained by Applicant, the provision of a single background with a fixed gray level provides economy and reduced complexity for a user in a web environment. Because remote device characterization relies on individual user input. Accordingly, for bandwidth economy and ease of use, it is desirable to obtain the user input in as few steps as possible. In addition, the user input preferably is obtained in a simple series of input device selections (e.g., mouse clicks), rather than more complex adjustments or manipulations on the part of the user, such as manipulation of slider bars. Also, obtaining user input from a fixed set of choices simplifies the format and amount of information used to characterize the display device.

Brettel provides a gamma adjustment technique that requires adjustment of not only a background but also a square to be matched with the background. As noted by the Examiner, the Brettel "applet allows for the adjusting of both the center square and the background." The claimed invention, with a fixed gray level background, avoids the need for such adjustment, and thereby promotes economy, conciseness, and simplicity. The teaching offered by Brettel is directly at odds with the objectives described above, and teaches away from the provision of a single dithered gray background representing a fixed gray level, as specified by Applicant's claims.

Second, the Examiner has not established a prima facie case of obviousness with respect to a gray level of approximately 25 to 40%. This range does not "overlap or lie inside ranges disclosed by" Brettel, because Brettel does not disclose a range. The fact that Brettel permits adjustment from 0 to 100% does not mean that Brettel actually suggests a range of approximately 25 to 40%. Brettel contemplates no particular range whatsoever, other than the range bounded by the absolute minimum and maximum of the display device. This amounts to a pronouncement that there is no range in the Brettel.[1] Rather, according to Brettel, any gray value would suffice. Moreover, to the extent that adjustment from 0 to 100% can be considered a

[1] For perspective, it is clear that a prior art reference suggesting the suitability of any concentration (0 to 100%) of a chemical constituent, would not suggest a particular concentration of 25 to 40% of that constituent.

range, Applicant's range of 25 to 40% is a particular range that has been selected to provide distinct advantages as discussed below.

For example, Applicant has previously explained that a single dithered gray background representing a fixed gray level of approximately 25 to 40% provides advantages not appreciated by the prior art, much less Brettel. As explained in Applicant's disclosure, a dithered background representing a fixed gray level of approximately 25 to 40% gray level more closely matches the actual midpoint of black to gray transition for most display devices. See, e.g., page 2, line 25, to page 3, line 2, of Applicant's Disclosure. The black to gray transition ordinarily is not linear for a typical CRT monitor. With a dither that produces a fixed gray level in the range of approximately 25 to 40%, however, the gray element selected by the user in comparison to the dithered background provides a more accurate indication of gamma or gray balance.

Brettel provides no suggestion of the desirability of a gray level in a range of 25 to 40%, nor any other gray level range for that matter. The availability of any value whatsoever, between the minimum and maximum of the display device, offers no teaching that would have suggested the range required by Applicant's claims. Therefore, the rejection should be withdrawn. Similar arguments apply for claims reciting a fixed gray level of approximately 33%.

4. ***Product Similarity.*** At page 4, last paragraph, in reply to Applicant's argument that the process performed by the Brettel applet is different from the process of the claimed invention, the Examiner stated:

> the product of the independent claims 1, 15, 22, 25, 41, 45 is similar to the Brettel applet product; therefore, the processes of the invention and the prior art should be similar.

With all due respect, this particular statement is perplexing. Applicant challenges the Examiner to offer any legal authority whatsoever for the proposition that the features of a process can be disregarded if the product made by the process is similar to a product achieved in the prior art. Moreover, Applicant questions the basic logic of such a statement.

In the instant application, the claimed invention and the Brettel applet both produce an estimate of gamma for a display device. The Examiner's statement that the processes of the claimed invention and the prior art "should be similar" ignores the fact that they are not. The

Examiner's position is tantamount to saying that every process of estimating gamma is similar because the result is the same, i.e., an estimate of gamma. Would the Examiner similarly conclude that every process for calibrating a display device is similar because the result is a calibrated display device? Or that every process for printing an image is similar because the result is a printed image?

The Examiner suggested that "Applicant should explicitly specify the significance [sic] of the process in the" claimed invention. Yet, is that not what the claims already provide in specifying the use of a single dithered background representing a fixed gray level of approximately 25 to 40% gray level, and the simultaneous display of a plurality of gray elements representing different gray levels?

The Examiner further suggested that "Applicant should also provide a clarification for the differences between the prior art and the present invention." Such differences should be clear from Applicant's extensive remarks during the course of this prosecution history. At the risk of repetition, Applicant again points out that Brettel does not disclose or suggest a gamma estimation process that uses a single dithered background representing a fixed gray level of approximately 25 to 40% gray level, and the simultaneous display of a plurality of gray elements representing different gray levels. Aside from the numerous additional features in the dependent claims, those are some of the clearly novel and non-obvious differences, at least for independent claims 1, 15, and 25. Claims 41 and 45 are even more particular.

The method of claim 41, for example, requires simultaneously displaying a plurality of green elements within a web browser on a display device and displaying a dithered green background on the display device simultaneously with the green elements. At least some of the green elements have different green levels, while the dithered green background represents a fixed green level of approximately 25 to 40%.

The method of claim 41 further requires receiving user selection of one of the green elements with a green level that appears to most closely blend with the green level represented by the dithered green background, and generating a first gray element with substantially equivalent red, green and blue values. Notably, each of the red, green and blue values is substantially equivalent to a green value of the selected green element.

Per claim 41, red-blue shifted gray elements are generated with green values substantially equivalent to the green value of the selected second green element. At least one of the red and blue values of each of the red-blue shifted gray elements is different from the green value of the selected green element, and thereby represent shifts in the red channel, blue channel, or a combination of the red and blue channels away from the first gray element.

Upon selection of one of the first gray element and the red-blue shifted elements that appears to most closely blend with a dithered gray background displayed by the display device, gamma is estimated for the display device based on the red, green and blue values of the selected one of the gray element and the red-blue shifted elements, as set forth in claim 41.

5. ***Berger – dithered gray background.*** At page 5, second paragraph, in reply to Applicant's statement that the 25%, 50%, and 75% dithered gray level elements in the second figure ("Gamma Demonstration Image") in the Berger document are not used for gamma estimation, the Examiner stated that Berger discloses that a user directly estimates display gamma using the image in the third figure ("Gamma Estimation Image") in the Berger document. Hence, the Examiner has confirmed Applicant's point, i.e., that the dithered elements in the second figure of Berger clearly are not used for gamma estimation, bur rather to illustrate how dithering can be used to approximate the appearance of a continuous tone element. Applicant notes that, in this respect, Berger further validates the proper meaning of "dithering," as discussed above.

The problem with the Examiner's analysis is that he has actually relied on the 25%, 50% and 75% dithered elements in the second figure of Berger as support for a teaching of a dithered gray background representing a gray level of 25 to 40%. Even in the present Office Action, the Examiner relies on this purported teaching. See page 12, lines 12-16. Yet, the Examiner now points to the third figure of Berger as the image that is used for gamma estimation. Of course, it is correct that the third figure of Berger shows an image that is used for gamma estimation, but the gray elements in the second figure of Berger do not have any relationship to the third figure, and are not used for gamma estimation. Consequently, Berger does not provide the teaching that the Examiner says it does. Hopefully, this discussion will clear up any confusion that the Examiner may have on this point.

6. ***Coarse and Fine Gamma.*** At page 5, last paragraph, in reply to Applicant's argument that Brettel and Berger do not disclose estimation of a coarse gamma and a fine gamma, as defined by some of Applicant's claims, the Examiner pointed to the gamma function at page 1 of Brettel. In particular, the Examiner seemed to suggest that the gamma estimated by the power function is a fine gamma. Applicant fails to understand the relevance of the based equation used to calculate a gamma value to the estimation of a coarse gamma followed by estimation of a fine gamma, as set forth in some of the claims.

The Examiner's reference to the basic gamma function illustrated by Brettel is confusing to Applicant. Nothing in the basic gamma function described by Brettel suggests the selection of one of a first plurality of gray elements displayed by the display device that appears to most closely blend with the dithered gray background, and estimation of a coarse gamma based on the selected gray element, followed by selection of one of a second plurality of gray elements displayed by the display device that appears to most closely blend with the dithered gray background, wherein the second plurality of gray elements includes the selected one of the first plurality of gray elements, and estimation a fine gamma for the display device based on the selected one of the second plurality of gray elements. The Examiner's response fails to address such limitations. Instead, the Examiner has offered only the fact that Brettel is aware of the common function to determine an estimate of gamma, which is well known to those of ordinary skill in the art of imaging.

At page 6, first paragraph, in reply to Applicant's argument that Berger also fails to disclose estimation of a coarse gamma, the Examiner acknowledged Applicant's point. However, the Examiner pointed to the second figure ("Gamma Demonstration Image") on page 2 of Berger. Applicant is again confused as to why the Examiner pointed to the second figure in Berger with respect to the coarse gamma/fine gamma aspect of Applicant's claims. As explained previously, the second figure in Berger presents dithered elements with gray levels of 25%, 50% and 75% to illustrate how dithering can be used to approximate the appearance of a continuous tone element, and the effect of gamma correction on the approximation. Figure 2 of Berger simply has nothing to do with the estimation of a coarse gamma followed by estimation of a fine

gamma. Instead, the second figure is intended to illustrates the impact of gamma on the appearance of a display.

Claim Rejection Under 35 U.S.C. § 103

The Examiner rejected claim(s) 1, 2, 4-9, 11-17, 19, 21-26, 28-33, 35-37 and 39-48 under 35 U.S.C. 103(a) as being unpatentable over "Display gamma estimation applet" by Hans Brettel (Brettel) and "Why do Images Appear Darker on Some Displays? An Explanation of Monitor Gamma" by Robert W. Berger (Berger), and further in view of Adobe Technical Guides (Adobe). Applicant respectfully traverses the rejection. The Examiner's continued reliance on these references reflects a basic misunderstanding of the requirements of Applicant's claims and the teachings contained in the references.

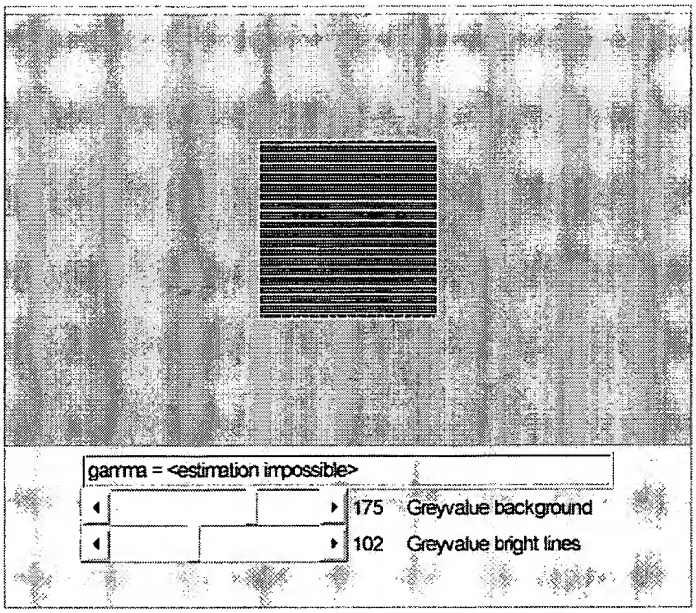
Claims 1, 2, 4-9, 11-17, 19, 21-26, 28-33, 35-37, 39, and 40 require a gamma estimation based on selection of one of a plurality of gray elements that appears to most closely blend with a single dithered gray background displayed simultaneously with all of the gray elements, and which represents a fixed gray level of approximately 25 to 40%, wherein at least some of the gray elements represent different gray levels.

Claims 41-44 and 45-48 define very particular embodiments of the invention, which make use of green elements, and a dithered green background displayed simultaneously with the green elements, and having a fixed green level of approximately 25 to 40%, as well as red-blue shifted elements to estimate gamma while taking into consideration gray balance between the red, green and blue channels, as further specified in the claims.

Brettel

As previously explained by Applicant, Brettel provides a process for estimating the gamma of a display device in which a single center square is displayed against a gray background. In Brettel, both the center square and the gray background are adjustable to produce different gray levels. Gray level adjustments to the center square are accomplished by dithering. In contrast, gray level adjustments to the background are accomplished by adjusting the intensity of background pixels on a continuous tone basis. The user adjusts a first slider bar to adjust the

pixel intensity of the background, and adjusts a second slider bar to apparently adjust a degree of dithering in the gray patch. A screen capture from Brettel is provided below.



Brettel fails to disclose at least the following elements of Applicant's claims 1, 2, 4-9, 11-17, 19, 21-26, 28-33, 35-37, 39, and 40:

1. simultaneous display of a plurality of gray elements; Brettel shows one

2. display of a single gray background simultaneously with the gray elements; the background is not dithered

3. a single gray background with a fixed gray level of approximately 25 to 40%; the background is adjustable and is not fixed to the required range

4. estimation of gamma based on user selection of one of the simultaneously displayed gray elements; there is no selection of one of a plurality of gray elements

Berger

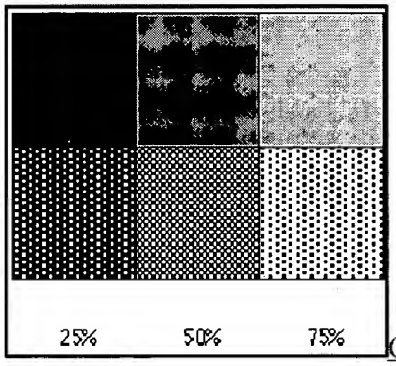
Berger provides a background discussion on the history and meaning of gamma for a display monitor. On page 1, Berger briefly explains the history of gamma, and the relationship between gamma, voltage, and brightness. Berger presents a graph ("Gamma Chart") illustrating the relationship between input voltage and brightness, i.e., gamma. On page 2, Berger also describes the implications of gamma for computer displays. In particular, Berger describes the

use of gamma correction techniques in some computers. Notably, Berger also refers to the fact that lack of standardization in dealing with display gamma "has caused significant problems with systems like the World Wide Web which distribute images to different types of displays."

On page 2, Berger demonstrates the effect of display gamma on the image produced by a display in the figure entitled "Gamma Demonstration Image." The Gamma Demonstration Image is not used to estimate gamma. Instead, Berger simply uses the Gamma Demonstration Image to show how gamma affects a display. As further explained on page 3 of Berger, the top row present three boxes with continuous tone gray levels. The bottom row presents three dithered boxes to simulate the corresponding gray levels in the top row. The dithered boxes represent 25%, 50%, and 75% gray levels. The gray levels are simulated in the dithered boxes by setting 25%, 50% and 75% of the pixels at minimum intensity, and setting the other pixels at maximum intensity. If the gamma is not corrected, the top boxes will not match the bottom boxes. The Gamma Demonstration Image from Berger is presented below:

What is the gamma of my display system?

As mentioned above, a display which simulates grayscales by dithering adjacent pixels between 0% (black) and 100% (white) will have a linear intensity response regardless of the monitor's gamma. This fact is used to demonstrate the effect of display gamma in this image:



Gamma Demonstration Image

On page 3, Berger presents a figure ("Gamma Measurement Image") that can be used to estimate the gamma of a display system. The Gamma Measurement Image includes a top row of continuous tone boxes and a bottom row of dithered boxes. The top and bottom boxes are arranged in vertical pairs. The boxes in the bottom row all appear to simulate the same gray level, while the boxes in the top row have different intensity levels (1.0, 1.2, 1.4, 1.6, 1.8, 2.0, 2.2, 2.6, 2.8, 3.0) to represent different gray levels. Selection of the pair of boxes in which the

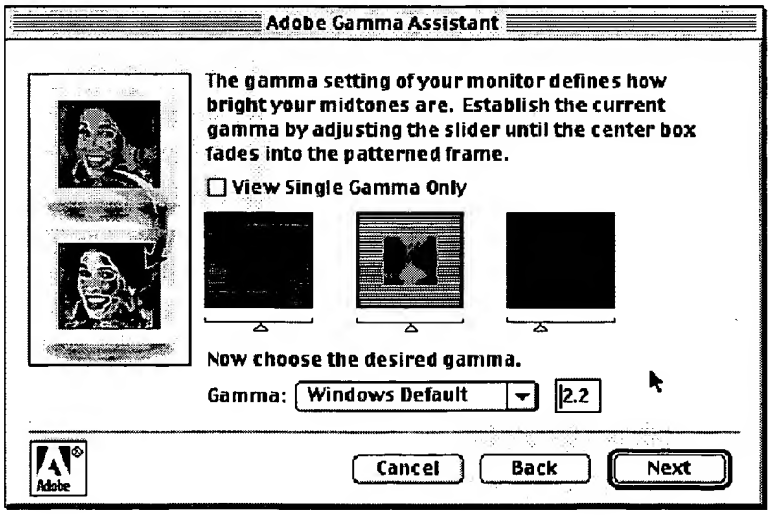
gray level and simulated gray level most closely match, i.e., "comes closest to having equal brightness in the top and bottom halves," indicates the gamma for the display.

Berger fails to disclose at least the following elements of Applicant's claims 1, 2, 4-9, 11-17, 19, 21-26, 28-33, 35-37, 39, and 40:

1. simultaneous display of a plurality of gray elements with different gray levels
2. display of a single gray background simultaneously with a plurality of gray elements
3. a single gray background with a fixed gray level of approximately 25 to 40%

Adobe

Adobe describes a tool called Adobe Gamma for use in calibrating a display. The Adobe Gamma tool is a control panel displayed on the display. The control panel presents a single continuous-tone red patch displayed against a red dithered background, a single continuous tone green patch displayed against a dithered green background, and a single continuous tone blue patch displayed against a dithered blue background. The user selects a gamma for each individual color channel (i.e., red, green or blue) using a slider bar. Specifically, the slider bar is used to adjust each continuous tone patch to match the simulated intensity of the pertinent dithered background. Hence, Adobe describes the computation of separate, individual gammas for the red, green and blue channels, although single gamma estimation is also possible in Adobe using a single gray element. A screen shot from the Adobe Gamma tool is presented below.



Adobe fails to disclose at least the following elements of Applicant's claims 1, 2, 4-9, 11-17, 19, 21-26, 28-33, 35-37, 39, and 40:

1. simultaneous display of a plurality of gray elements
2. display of a single gray background simultaneously with the gray elements
3. a single gray background with a fixed gray level of approximately 25 to 40%
4. estimation of gamma based on user selection of one of the simultaneously displayed gray elements.

The Examiner's Analysis

In his analysis, the Examiner admitted that the Brettel applet discloses simultaneous display of a plurality of gray elements with a single gray background having a fixed gray level. On the contrary, the Examiner noted that the Brettel applet "allows for adjusting of both the center square and the background." The Examiner surmised that a user might adjust the background to produce a gray level of 25-40%. However, this completely misses the point of Applicant's claimed invention, i.e., that the user does not need to adjust the background or the gray elements. Moreover, as outlined above, insofar as Brettel allows for adjustment of the center square and background between 0 and 100%, Brettel lacks any suggestion of limiting the adjustment of the background to produce a gray level of 25-40% as required by Applicant's claims.

As previously explained, slider bars and other input media simply increase the amount of user interaction required to determine gamma, resulting in greater complexity, which is highly undesirable in a web environment where click economy is important. Likewise, the lack of a single background with a fixed gray level of 25 to 40% presents more complexity to the user. Instead of providing a single background locked to the actual midpoint of black to gray transition for most display devices, i.e., 25 to 40%, Brettel requires constant manipulation of the slider bar to arrive at an estimate. In contrast, the selection of one of the gray elements displayed against the fixed background, per the claimed invention, requires only a single click.

The question is not whether the background in the Brettel applet could theoretically be adjusted to a particular range, but rather why it would have been obvious to provide a single

background fixed in the particular range recited by Applicant's claims. Such a modification would be directly contrary to the teachings of Brettel.

Proceeding further in the Examiner's analysis, at page 12 of the Office Action, it appears that the Examiner merely cited Berger for the teaching of a dithered gray background. In particular, the Examiner acknowledged that the Brettel applet does not present a dithered gray background, but pointed to the Gamma Demonstration Image in Berger. Again, as mentioned above, the Gamma Demonstration Image in the Berger reference is not used for gamma estimation. Hence, the Examiner's reliance on Berger is misplaced.

The Examiner asserted that it would have been obvious to provide a dithered gray background in the Brettel applet "because of the conventionality of doing (as shown in Berger) and because the two different gray areas (background and center square) need to be generated in different ways for the process to work" (emphasis added). However, it is unclear how the Brettel process would work if Brettel were modified to used both a dithered background and a dithered center square, consistent with the modification proposed by the Examiner. Accordingly, one of ordinary skill in the art would have consciously avoided such a modification of the Brettel applet.

With respect to the Adobe reference, the Examiner also stated that:

> it would have been obvious to use the teachings of Adobe in combination of Brettel and Berger since all three references are directed to the same process of setting a gamma level using an operator input and because the ability of setting the gamma using the component (RGB) colors allows for a more accurate and distinct gamma correction since the gamma can be adjusted individually for each component rather than a single global gamma adjustment.

Whether the Examiner's rationale for combination of Adobe with Brettel and Berger is reasonable or not, it is unclear why the Examiner has cited Adobe, at least with respect to claims 1 and 2. In other words, what is the nature of the proposed combination? On the surface, Adobe seems incompatible with the Brettel applet, inasmuch as Brettel does not seem to contemplate gamma adjustment, but rather gamma estimation, and makes no mention of gamma estimation for separate channels.

In the Office Action, the Examiner seemed to disregard several features relating to the display of green elements and red-blue shifted gray elements. With respect to claims 41 and 44,

for example, the Examiner seemed to reiterate much of the grounds of rejection advanced with respect to claim 1, with no regard for the numerous additional limitations specifically set forth in claims 41 and 44.

Claims 41 and 44 highlight the use of the green channel to determine a common gamma for all color channels of the display device, while taking into account gray balance. In this manner, unlike Adobe, it is not necessary to compute separate gammas for the red, green and blue channels.

Adobe merely discloses the computation of separate, individual gammas for the red, green and blue channels. For example, Adobe depicts a red element presented against a red background, a green element presented against a green background and a blue element presented against a blue background. Again, relative to Adobe, the claimed invention results in bandwidth economy and simplicity for users.

For example, claim 41 recites simultaneously displaying a plurality of green elements having different green levels, displaying a dithered green background with a fixed green level of approximately 25 to 40% on the display device simultaneously with the green elements, and receiving user selection of one of the green elements with a green level that appears to most closely blend with the green level represented by the dithered green background. Then, a first gray element with substantially equivalent red, green and blue values is generated. Each of the red, green and blue values is substantially equivalent to the green value of the selected green element. This equal value corresponds to the value of the selected green element. Hence, the green channel is used to determine not only the green value but also the red and blue values of the first gray element.

Claim 41 further requires generating red-blue shifted gray elements with green values substantially equivalent to the green value of the selected second green element, but with red and blue values that are different from the green value of the selected green element, thereby representing shifts in the red channel, blue channel, or a combination of the red and blue channels away from the first gray element. Upon selection of either the first gray element or one of the red-blue shifted elements that appears to most closely blend with a dithered gray background displayed by the display device, gamma is estimated based on the red, green and blue values of the selected element.

The red-blue shifted gray elements include the same value of green but different red and blue values, and thereby serve to reveal gray balance issues. As described in Applicant's specification, gray balance provides an indication of the amount of color shift of a neutral gray toward one or more of the color channels used by the display device, e.g., red, green, and blue. For example, Applicant's specification states:

> Thus, in this gray balance process, the green intensity value selected in the fine gamma process is used to generate the gray patches that exhibit +/- (plus/minus) differences or "shifts" in red and blue about the value of the central gray patch derived from the gamma estimate. For example, the value of green selected in the fine gamma process can be displayed in the center of the range in conjunction with substantially identical values of red and blue. The gammas for red and blue are then fine tuned by the gray balance determination, which helps identify red-blue imbalance in the display device. Thus, the green gamma is "locked in" in the gray balance step, while the red and blue imbalance is determined. In other words, every patch in the gray balance array carries the same green value, but is modulated by different gradations of red and blue. This step eliminates one axis of variation, green, but permits identification of any imbalance between red and green or blue and green. This limits the range of choices to a more finely-tuned area, and aids the user in making a more accurate selection.

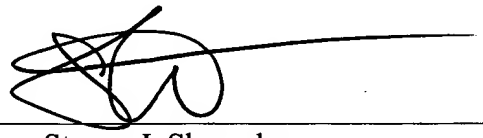
Page 35, line 20, to page 36, line 2. Adobe makes no mention of red-blue shifted gray elements to estimate gray balance. Instead, Adobe simply estimates separate, individual gammas for the red, green and blue channels. Therefore, Adobe, combined with Brettel and Berger, clearly would not support a prima facie case of obviousness with respect to claims the recite the display of green elements and red-blue shifted elements.

In view of the differences identified above, and the lack of any suggestion in the prior art to make the necessary modifications to arrive at the claimed invention, one of ordinary skill in the art would not have considered the claimed invention obvious. Applicant respectfully submits that the prior art of record would not support a prima facie case of obviousness, and therefore request that the Examiner withdraw the rejection under 35 U.S.C. 103(a).

CONCLUSION

All claims in this application are in condition for allowance for at least the reasons outlined above. Applicant respectfully requests reconsideration and prompt allowance of all pending claims. Please charge any additional fees or credit any overpayment to deposit account number 50-1778. The Examiner is invited to telephone the below-signed attorney to discuss this application.

Date: 1-7-05

By: 

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